

What is claimed is:

1. A method of stimulating B-cell growth in an animal comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:
 - (a) a BAFF ligand or an active fragment thereof;
 - (b) a BAFF ligand or an active fragment thereof and an anti-T antibody;
 - (c) a BAFF ligand or an active fragment thereof and a CD40 ligand; and
 - (d) a BAFF ligand or an active fragment thereof and an anti-CD40 ligand molecule.
2. A method of stimulating immunoglobulin production in an animal comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:
 - (a) a BAFF ligand or an active fragment thereof;
 - (b) a BAFF ligand or an active fragment thereof and an anti-T antibody;
 - (c) a BAFF ligand or an active fragment thereof and a CD40 ligand;
 - (d) a BAFF ligand or an active fragment thereof and an anti-CD40 ligand molecule.
3. A method of co-stimulating B-cell growth and immunoglobulin production in an animal comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:
 - (a) a BAFF ligand or an active fragment thereof;
 - (b) a BAFF ligand or an active fragment thereof and an anti-T antibody;
 - (c) a BAFF ligand or an active fragment thereof and a CD40 ligand; and
 - (d) a BAFF ligand or an active fragment thereof and an anti-CD40 ligand molecule.
4. A method of stimulating dendritic cell-induced B-cell growth and maturation comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:

- (a) a BAFF ligand or an active fragment thereof;
- (b) a BAFF ligand or an active fragment thereof and an anti-T antibody;
- (c) a BAFF ligand or an active fragment thereof and a CD40 ligand; and
- (d) a BAFF ligand or an active fragment thereof and an anti-CD40 ligand molecule.

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5. The method according to claims 1-4 wherein the BAFF ligand is a soluble BAFF ligand.

6. The method according to claim 5 wherein the soluble BAFF ligand is a recombinant BAFF ligand.

7. The method according to claims 1-4 wherein the anti-CD40 molecule is a monoclonal antibody.

8. The method according to claims 1-4 wherein the animal is of mammalian origin.

9. The method according to claim 8 wherein the mammal is human.

10. A method of inhibiting B-cell growth in an animal comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:

- (a) a anti-BAFF ligand molecule or an active fragment thereof;
- (b) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;
- (c) an antibody specific for BAFF ligand or an active fragment thereof; and
- (d) an antibody specific for BAFF ligand receptor or an epitope thereof.

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11. A method of inhibiting immunoglobulin production in an animal comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:

- (a) a anti-BAFF ligand molecule or an active fragment thereof;

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- (b) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;
- (c) an antibody specific for BAFF ligand or an active fragment thereof; and
- (d) an antibody specific for BAFF ligand receptor or an epitope thereof.

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12. A method of co-inhibiting B-cell growth and immunoglobulin production in an animal comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:

- (a) a anti-BAFF ligand molecule or an active fragment thereof;
- (b) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;
- (c) an antibody specific for BAFF ligand or an active fragment thereof; and
- (d) an antibody specific for BAFF ligand receptor or an epitope thereof.

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13. A method of inhibiting dendritic cell-induced B-cell growth and maturation in an animal comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:

- (a) a anti-BAFF ligand molecule or an active fragment thereof;
- (b) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;
- (c) an antibody specific for BAFF ligand or an active fragment thereof; and
- (d) an antibody specific for BAFF ligand receptor or an epitope thereof.

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14. The method according to claims 10-13, wherein the anti-BAFF ligand is soluble.

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15. The method according to claim 14, wherein the soluble anti-BAFF ligand is a recombinant anti-BAFF ligand.

16. The method according to claims 10-13, wherein the anti-BAFF antibody is a monoclonal antibody.

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The method according to claims 10-13, wherein the anti-BAFF receptor antibody is a monoclonal antibody.

17. A method of treatment of an autoimmune disease comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:

- (a) a BAFF ligand or an active fragment thereof;
- (b) a BAFF ligand or an active fragment thereof and an anti-T antibody;
- (c) a BAFF ligand or an active fragment thereof and a CD40 ligand;
- (d) a BAFF ligand or an active fragment thereof and an anti-CD40 ligand molecule;
- (e) a anti-BAFF ligand molecule or an active fragment thereof;
- (f) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;
- (g) an antibody specific for BAFF ligand or an active fragment thereof; and
- (h) an antibody specific for BAFF ligand receptor or an epitope thereof.

18. A method of treating a disorder related to BAFF-ligand comprising the steps of:

- (a) introducing into a desired cell a therapeutically effective amount of a vector containing a gene encoding for a BAFF-related molecule; and
- (b) expressing said gene in said cell.

19. The method according to claim 1, wherein the BAFF-related molecule is selected from the group consisting of:

- (a) a BAFF ligand or an active fragment thereof;
- (b) a BAFF ligand or an active fragment thereof and an anti-T antibody;
- (c) a BAFF ligand or an active fragment thereof and a CD40 ligand;
- (d) a BAFF ligand or an active fragment thereof and an anti-CD40 ligand molecule;
- (e) a anti-BAFF ligand molecule or an active fragment thereof;
- (f) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;

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- (g) an antibody specific for BAFF ligand or an active fragment thereof; and
- (h) an antibody specific for BAFF ligand receptor or an epitope thereof.

20. The method according to claims 17-19, wherein the BAFF ligand is a soluble BAFF
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21. The method according to claim 20, wherein the soluble BAFF ligand is a recombinant
BAFF ligand.

10 22. The method according to claims 17-19, wherein the anti-CD40 molecule is a monoclonal
antibody.

23. The method according to claims 17-19, wherein the anti-BAFF ligand is soluble.

15 24. The method according to claim 23, wherein the soluble anti-BAFF ligand is a
recombinant anti-BAFF ligand.

20 25. The method according to claims 17-19, wherein the anti-BAFF antibody is a monoclonal
antibody.

26. The method according to claims 17-19, wherein the anti-BAFF receptor antibody is a
monoclonal antibody.

25 27. A method of inducing cell death comprising the administration of an agent
capable of interfering with the binding of a BAFF-ligand to a receptor.

30 28. A method of treating, suppressing or altering an immune response
involving a signaling pathway between a BAFF-ligand and its receptor
comprising the step of administering an effective amount of an agent
capable of interfering with the association between the BAFF-ligand and
its receptor.

29. A method of inhibiting inflammation comprising the step of administering a therapeutically effective amount of an antibody specific for a BAFF-ligand or an active fragment thereof.

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30. A method of inhibiting inflammation comprising the step of administering a therapeutically effective amount of an antibody specific for a BAFF-ligand receptor or an epitope thereof.

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31. A method of regulating hematopoietic cell development comprising the step of administering a therapeutically effective amount of a BAFF-ligand or an active fragment thereof.

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32. A method of treating, suppressing or altering an immune response involving a signaling pathway between a BAFF-ligand and its receptor comprising the step of administering an effective amount of an agent capable of interfering with the association between the BAFF-ligand and its receptor.

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33. A method of treating hypertension in an animal comprising the step of administering a therapeutically effective amount of a B-cell growth inhibitor.

34. The method according to claim 33, wherein the B-cell growth inhibitor is selected from the group consisting of:

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- (e) (a) a anti-BAFF ligand molecule or an active fragment thereof;
- (f) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;
- (g) an antibody specific for BAFF ligand or an active fragment thereof; and
- (h) an antibody specific for BAFF ligand receptor or an epitope thereof.

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35. The method according to claim 34, wherein the anti-BAFF ligand is soluble.

36. The method according to claim 35, wherein the soluble anti-BAFF ligand is a recombinant anti-BAFF ligand.
- 5 37. The method according to claim 34, wherein the anti-BAFF antibody is a monoclonal antibody.
38. The method according to claim 34, wherein the anti-BAFF receptor antibody is a monoclonal antibody.
- 10 39. The method according to claim 34, wherein the animal is of mammalian origin.
40. The method according to claim 39, wherein the mammal is human.
- 15 41. A method of treating hypertension in an animal comprising the step of administering a therapeutically effective amount of a co-inhibitor of B-cell growth and immunoglobulin secretion.
- 20 42. A method of treating cardiovascular disorders in an animal comprising the step of administering a therapeutically effective amount of a B-cell growth inhibitor.
43. A method of treating cardiovascular disorders in an animal comprising the step of administering a therapeutically effective amount of a co-inhibitor of B-cell growth and immunoglobulin production.
- 25 44. A method of treating renal disorders in an animal comprising the step of administering a therapeutically effective amount of a B-cell growth inhibitor.
- 30 45. A method of treating renal disorders in an animal comprising the step of administering a therapeutically effective amount of a co-inhibitor of B-cell growth and immunoglobulin production

46. A method of treating B-cell lympho-proliferate disorders comprising the step of administering a therapeutically effective amount of a B-cell growth inhibitor.

5 47. A method of stimulating B-cell production in the treatment of immunosuppressive diseases comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:

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- (e) a BAFF ligand or an active fragment thereof;
 - (f) a BAFF ligand or an active fragment thereof and an anti-T antibody;
 - (g) a BAFF ligand or an active fragment thereof and a CD40 ligand;
 - (h) a BAFF ligand or an active fragment thereof and an anti-CD40 ligand molecule;
 - (i) a anti-BAFF ligand molecule or an active fragment thereof;
 - (j) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;
 - 15 (k) an antibody specific for BAFF ligand or an active fragment thereof; and
 - (l) an antibody specific for BAFF ligand receptor or an epitope thereof.

20 48. A method of stimulating B-cell production in the treatment of an immunosuppressive disease comprising the step of administering a therapeutically effective amount of a composition selected from the group consisting of:

- 25
- (i) a BAFF ligand or an active fragment thereof;
 - (j) a BAFF ligand or an active fragment thereof and an anti-T antibody;
 - (k) a BAFF ligand or an active fragment thereof and a CD40 ligand;
 - (l) a BAFF ligand or an active fragment thereof and an anti-CD40 ligand molecule;
 - (m) a anti-BAFF ligand molecule or an active fragment thereof;
 - (n) a recombinant, inoperative BAFF ligand molecule or an active fragment thereof;
 - 30 (o) an antibody specific for BAFF ligand or an active fragment thereof; and

49. A method according to claim 48 wherein the immunosuppressive disease is HIV.

50. A method according to claim 49 wherein the immunosuppressive disease is associated with an organ transplantation.

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51. A method for treating or reducing the advancement, severity or effects of Sjogren's syndrome in a patient comprising the step of administering a pharmaceutical composition comprising a therapeutically effective amount of a BAFF blocking agent and a pharmaceutically acceptable carrier.

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52. The method of claim 51 wherein the BAFF blocking agent is selected from the group consisting of a soluble BAFF receptor molecule, an antibody directed against BAFF-ligand and an antibody directed against a BAFF receptor.

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53. The method of claim 52 wherein the soluble BAFF receptor further comprises a human immunoglobulin Fc domain.

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54. The method of claim 53 wherein the BAFF receptor is TACI.

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55. The method of claim 53 wherein the BAFF receptor is BCMA.

56. The method of claim 53 wherein the BAFF receptor is BAFF R.

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57. The method of claim 52 wherein the antibody directed against BAFF-ligand is a monoclonal antibody.

58. The method of claim 52 wherein the antibody directed against a BAFF receptor is a monoclonal antibody.

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59. The method of claim 58 wherein the monoclonal antibody is directed against TACI.

60. The method of claim 58 wherein the monoclonal antibody is directed against BCMA.
61. The method of claim 58 wherein the monoclonal antibody is directed against BAFF R.

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